Regulatory Agency should immediately conduct field phosphatase testing at the milk plant. (Refer to Appendix G.)
8. Vitamin testing shall be performed using test methods acceptable to FDA or other official methodologies, which give statistically equivalent results to the FDA methods.
9. Any other tests, which have been approved by FDA to be equally accurate, precise and practical.
10. All standards used in the development and use of drug residue detection methods designed for *Grade "A" PMO* monitoring programs shall be referenced to a United States Pharmacopeia (USP) standard when available. When a USP standard is not available, then the original method shall define the standard to be used.
11. Procedural or reagent changes for official tests shall be submitted to FDA for acceptance prior to being used by certified NCIMS milk laboratories.

SAMPLING PROCEDURES: *SMEDP* contains guidance for the sampling of milk and milk products. Optionally, sample collection time may be identified in military time (24 hour clock). (Refer to Appendix G. for a reference to drug residues in milk and/or milk products and the conditions under which a positive phosphatase reaction may be encountered in properly pasteurized milk or cream. Refer to Appendix B. for reference to farm bulk milk hauling programs regarding training, licensing/permitting, routine inspection and the evaluation of sampling procedures.)
When samples of raw milk for pasteurization, ultra-pasteurization, aseptic processing and packaging or retort processed after packaging are taken at a milk plant prior to pasteurization, ultra-pasteurization, aseptic processing and/or retort processing, respectively, they shall be drawn following adequate agitation from randomly selected storage tanks/silos. All counts and temperatures shall be recorded on a milk-ledger form as soon as reported by the laboratory. A computer or other information retrieval system may be used.

NOTE: Milk from animals not currently in the *Grade "A" PMO* may be labeled as Grade "A" and IMS listed upon FDA's acceptance of validated *Grade "A" PMO*, Section 6 and Appendix N. test methods for the animal to be added. (Refer to M-a-98, latest revision, for the specific milk and/or milk products that have FDA validated and NCIMS accepted test methods.)

SECTION 7. STANDARDS FOR GRADE "A" MILK AND/OR MILK PRODUCTS

All Grade "A" raw milk and/or milk products for pasteurization, ultra-pasteurization, aseptic processing and packaging, or retort processed after packaging and all Grade "A" pasteurized, ultra-pasteurized, aseptically processed and packaged low-acid milk and/or milk products, or retort processed after packaged low-acid milk and/or milk products, shall be produced, processed**,** manufactured and pasteurized, ultra-pasteurized, aseptically processed and packaged, or retort processed after packaged to conform to the following chemical, physical, bacteriological and temperature standards and the sanitation requirements of this Section.
No process or manipulation other than pasteurization, ultra-pasteurization, aseptic processing and packaging, or retort processed after packaging; processing methods integral therewith; and appropriate refrigeration shall be applied to milk and/or milk products for the purpose of

removing or deactivating microorganisms, provided that filtration and/or bactofugation processes are performed in the milk plant in which the milk and/or milk product is pasteurized, ultra-pasteurized, aseptically processed and packaged, or retort processed after packaged. Provided, that in the bulk shipment of cream, nonfat (skim) milk, reduced fat or lowfat milk, the heating of the raw milk, one (1) time, to temperatures greater than 52ºC (125ºF) but less than 72ºC (161ºF), for separation purposes, is permitted when the resulting bulk shipment(s) of cream, nonfat (skim) milk, reduced fat or lowfat milk are labeled heat-treated. In the case of heat-treated cream, the cream may be further heated to less than 75ºC (166ºF) in a continuing heating process and immediately cooled to 7ºC (45ºF) or less when necessary for enzyme deactivation (such as lipase reduction) for a functional reason.

Milk plants, receiving stations and transfer stations participating in the NCIMS voluntary HACCP Program, shall also comply with the requirements of Appendix K. of this *Ordinance*.

Whey shall be from cheese made from Grade "A" raw milk for pasteurization, ultra-pasteurization, aseptic processing and packaging or retort processed after packaging as provided in this *Ordinance*.

Buttermilk shall be from butter made from Grade "A" cream, which has been pasteurized prior to use in accordance with Item 16p of this *Ordinance*. Provided, that this requirement shall not be construed as barring any other heat treatment process which has been recognized by the FDA to be equally efficient in the destruction of staphylococcal organisms and which is approved by the Regulatory Agency.

Buttermilk and whey used in the manufacture of Grade "A" milk and milk products shall be produced in a milk/cheese plant that complies with Items 1p, 2p, 3p, 4p, 5p, 6p, 7p, 8p, 9p, 10p, 11p, 12p, 13p, 14p, 15p, 17p, 20p, 21p and 22p as provided in this *Ordinance*.

Whey shall be from:

1. Cheese made from Grade "A" raw milk for pasteurization, which has been pasteurized prior to use, in accordance with Item 16p of this *Ordinance*, or
2. Cheese made from Grade "A" raw milk for pasteurization, which has been heat-treated to a temperature of at least 64^{o}C (147^{o}F) and held continuously at that temperature for at least twenty one (21) seconds or to at least 68^{o}C (153^{o}F) and held continuously at that temperature for at least fifteen (15) seconds, in equipment meeting the pasteurization requirements provided for in this O*rdinance*. Provided, that this requirement shall not be construed as barring any other heat treatment process which has been recognized by the FDA to be equally efficient in the destruction of staphylococcal organisms and which is approved by the Regulatory Agency.

Table 1. Chemical, Physical, Bacteriological, and Temperature Standards (Refer to M-a-98, latest revision, for FDA Validated and NCIMS Accepted Tests Methods.)		
GRADE "A" RAW MILK AND MILK PRODUCTS FOR PASTEURIZATION, ULTRA-PASTEURIZATION, ASEPTIC PROCESSING AND PACKAGING, OR RETORT PROCESSED AFTER PACKAGING	Temperature*****	Cooled to 10ºC (50ºF) or less within four (4) hours or less, of the commencement of the first milking, and to 7°C (45ºF) or less within two (2) hours after the completion of milking. Provided, that the blend temperature after the first milking and subsequent milkings does not exceed 10ºC (50ºF). **NOTE:** Milk sample submitted for testing cooled and maintained at 0ºC (32ºF) to 4.5ºC (40ºF), where sample temperature is >4.5ºC (40ºF), but ≤7.0ºC 45°F) and less than three (3) hours after collection has not increased in temperature.
	Bacterial Limits	Individual producer milk not to exceed 100,000 per mL prior to commingling with other producer milk. Not to exceed 300,000 per mL as commingled milk prior to pasteurization. **NOTE:** Tested in conjunction with the drug residue/inhibitory substance test.
	Drugs***** .....……	No positive results on drug residue detection methods as referenced in Section 6 - Laboratory Techniques.
	Somatic Cell Count*...	Individual producer milk not to exceed 750,000 per mL.
GRADE "A" PASTEURIZED MILK AND/OR MILK PRODUCTS	Temperature	Cooled to 7ºC (45ºF) or less and maintained thereat. **NOTE:** Milk sample submitted for testing cooled and maintained at 0ºC (32ºF) to 4.5ºC (40ºF), where sample temperature is >4.5ºC (40ºF), but ≤7.0ºC 45°F) and less than three (3) hours after collection has not increased in temperature.
	Bacterial Limits**…..	Not to exceed 20,000 per mL, or gm.*** **NOTE:** Tested in conjunction with the drug residue/inhibitory substance test.
	Coliform	Not to exceed 10 per mL. Provided, that in the case of bulk milk transport tank shipments, shall not exceed 100 per mL. **NOTE:** Tested in conjunction with the drug residue/inhibitory substance test.
	Phosphatase**	Less than 350 milliunits/L for fluid products and other milk products by approved electronic phosphatase procedures.
	Drugs**** .....…..	No positive results on drug residue detection methods as referenced in Section 6 - Laboratory Techniques which have been found to be acceptable for use with Pasteurized Milk and/or Milk Products. (Refer to M-a-98, lastest revision.)

GRADE "A" ULTRA-PASTEURIZED (UP) MILK AND/OR MILK PRODUCTS	Temperature.....	Cooled to 7ºC (45ºF) or less and maintained thereat.
	Bacterial Limits**…..	Not to exceed 20,000 per mL, or gm.*** **NOTE:** Tested in conjunction with the drug residue/inhibitory substance test.
	Coliform …….....	Not to exceed 10 per mL. Provided, that in the case of bulk milk transport tank shipments, shall not exceed 100 per mL.
	Drugs****.....….	No positive results on drug residue detection methods as referenced in Section 6-Laboratory Techniques which have been found to be acceptable for use with Ultra-Pasteurized Milk and/or Milk Products. (Refer to M-a-98, latest revision.)
GRADE "A" PASTEURIZED CONCENTRATED (CONDENSED) MILK AND/OR MILK PRODUCTS	Temperature……	Cooled to 7°C (45°F) or less and maintained thereat unless drying is commenced immediately after condensing.
	Coliform……	Not to exceed 10 per gram. Provided, that in the case of bulk milk transport tank shipments shall not exceed 100 per gram.
GRADE "A" NONFAT DRY MILK AND DRY MILK AND/OR MILK PRODUCTS	Bacterial Estimate……. Coliform……	Not to Exceed: 10,000 per gram 10 per gram
GRADE "A" WHEY FOR CONDENSING AND/OR DRYING	Temperature…….	Maintained at a temperature of 45°F (7°C) or less, or 57°C (135°F) or greater, except for acid-type whey with a titratable acidity of 0.40% or above, or a pH of 4.6 or below.
GRADE "A" PASTEURIZED CONDENSED WHEY AND/OR WHEY PRODUCTS	Temperature……..	Cooled to 10°C (50°F) or less during crystallization, within 72 hours of condensing.
	Coliform Limit……...	Not to exceed 10 per gram.
GRADE "A" DRY WHEY, GRADE "A" DRY WHEY PRODUCTS, GRADE "A" DRY BUTTERMILK, AND GRADE "A" DRY BUTTERMILK PRODUCTS	Coliform Limit……...	Not to exceed 10 per gram.

* Goat Milk 1,500,000/mL.

** Not applicable to acidified or cultured milk and/or milk products, eggnog, cottage cheese, and other milk and/or milk products as identified in the latest revision of M-a-98.

*** Results of the analysis of milk and/or milk products which are weighed in order to be analyzed shall be reported in # per gm. (Refer to the current edition of the *SMEDP.*)

**** Not applicable to acidified or cultured milk and/or milk products, eggnog, cottage cheese, pasteurized and ultra-pasteurized flavored (non-chocolate) milk and/or milk products and other milk and/or milk products as identified in the latest revision of M-a-98.

***** Raw sheep milk samples that have previously been frozen may be tested for Appendix N drug residue if the samples meet the sampling requirements cited in Appendix B.

NOTE: It is not allowed to test frozen raw milk samples for bacteria or somatic cells.